Storm Sentinels from Enware Australia prevent oil an entering drains and sewers

by Enware Australia

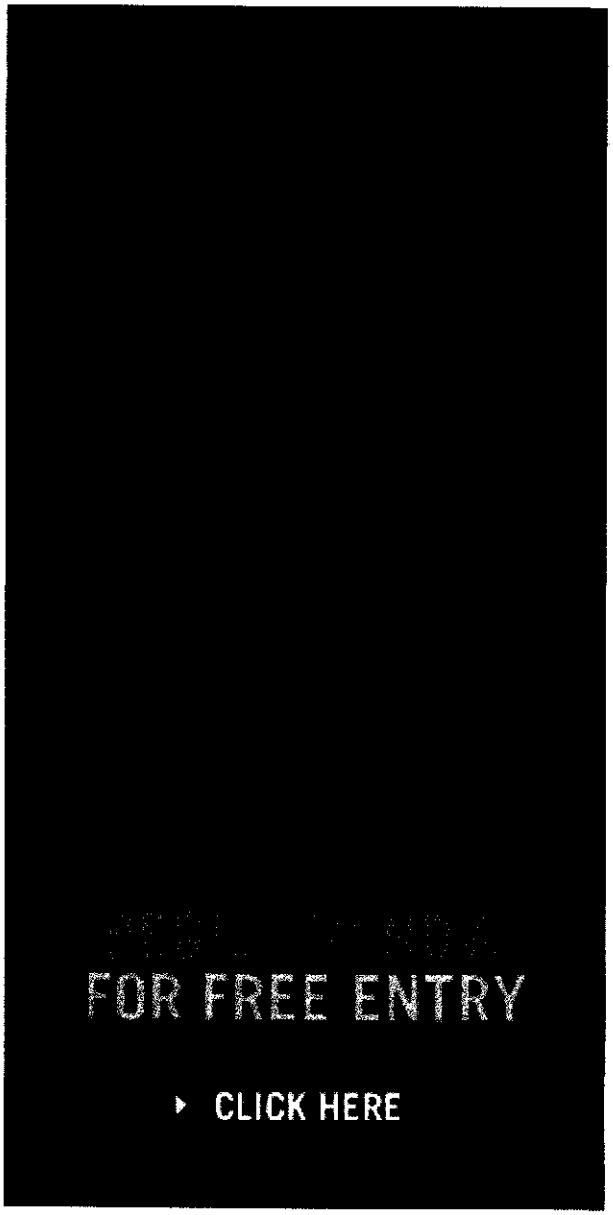
Enware Safe-Equip, a division of Enware Australia , introduces a new drain protection insert to help companies comply with stormwater pollution containment and prevention plans and best management practices.

The Storm Sentinel is an adjustable catch basin insert that protects storm drains and catch basins by capturing oil and sediment before it finds its way into pipelines on industrial, commercial and municipal sites.

Storm Sentinel drain protection insert is supplied with an oil-absorbent media in a screened bag, and also guards against potential discharge on construction sites, parking areas and drive-up retail facilities.

The drain protection insert can handle up to 8870 litres a minute overflow rate to help prevent ponding, and the drain insert will not fall into the basin even if fully loaded. The Storm Sentinel drain protection insert requires no special tools to install and will fit any size rectangular catch basin up to 61x91cm and round basins up to 61x66cm. Drain protection inserts are available in customisable sizes.

Storm Sentinel drain protection inserts are part of Safe-Equip's comprehensive range of spill containment and dispensing solutions, including environmental and worker protection products, bunding and racking systems, multiple drum spill pallets and workstations, bulk container systems, portable spill containment berms, salvage drums and emergency response equipment including customised spill kits, Ze eyewash and decontamination solutions.



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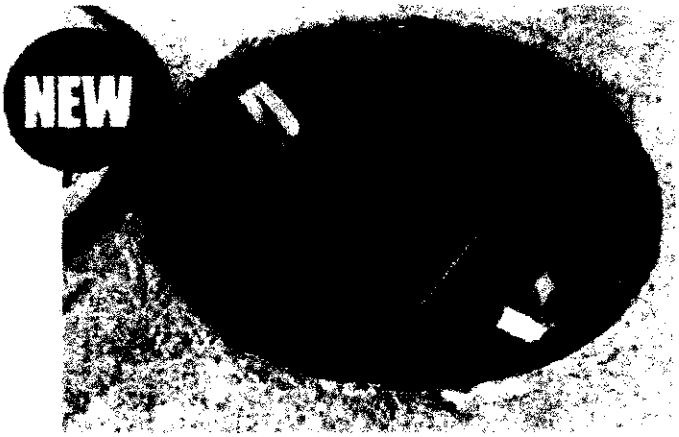
Which has then resulted in what Enpac now calls the "Storm Drain Defender" "Enpac Insert" "Storm Sentinel" this is a current derivative of the Sea Life Saver liner scientifically intended for healthy usage only within a supporting structure. see Exhibit "J"

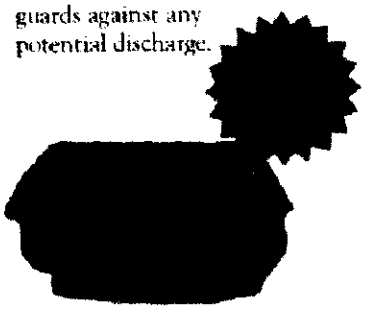
EXHIBIT J

STORM SENTINEL™ ADJUSTABLE CATCH BASIN INSERT

The Storm Sentinel Drain Protection Inserts help companies comply with Stormwater Pollution Prevention Plans and Stormwater Best Management Practices by protecting your storm drains and catch basins. It's the sure way to catch oil and sediment headed into storm drains and sewers. Equipped with an oil-absorbent media in a screened bag, the Storm Sentinel guards against any potential discharge.

NEW





ENPAC's® enhanced design has dramatically increased the surface area for greater sediment retention while decreasing the depth of the unit in the catch basin.

- 1341 & 1344 fit any size rectangular catch basin's from 16"x20" to 28"x36". XL version fits rectangular catch basin's up to 42"x42".
- 1340 & 1343 fit any size round catch basin's from 27" to 29" in diameter. Custom sizes available.
- Up to 500 GPM overflow rate helps avoid ponding.
- Requires no special tools to install
- Helps comply with NPDES, 40 CFR 122.26 when used as Best Management Practice in Storm Water Pollution Prevention Plans.

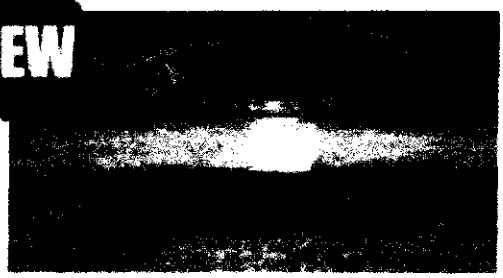
TO INSTALL: Remove grate and adjust wire frame to fit in recess.

Place insert into recess and frame into corners. Replace metal grate.

No part of the insert extends above the surface.

TO REMOVE: Simply lift the grate, grab the handle and pull out the insert

NEW



STORM SENTINEL™
ADJUSTABLE CURB INLET INSERT

ENPAC's® new Storm Sentinel™ Adjustable Curb Inlet Insert was designed and engineered to perform to the same demanding test requirements as our award winning Catch Basin Insert's above. You can now have the same high quality inserts for Curb Inlet situations. Adjustable to fit curb inlet openings from 24" to 30" wide.

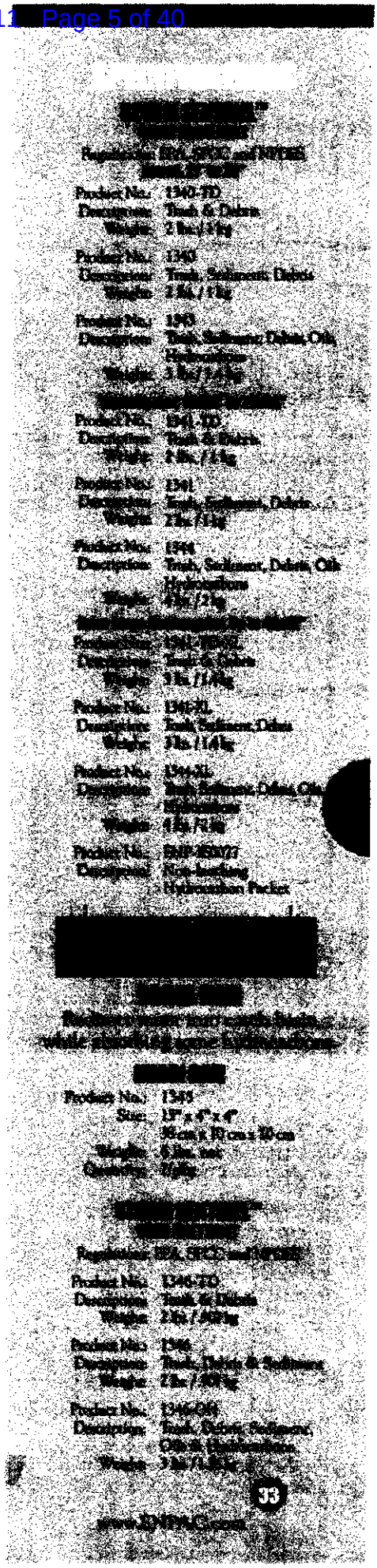
Insert won't fall into the basin, even when fully loaded. Dispose of the used insert according to company policy and all applicable laws and regulations.

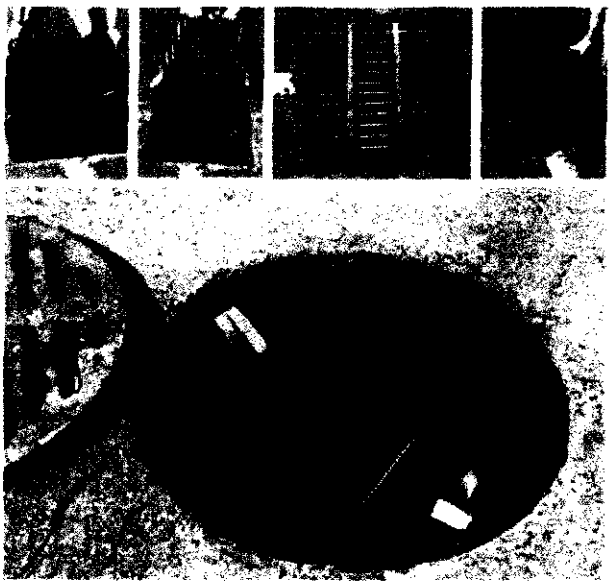
GREAT FOR USE IN:

- Industrial facilities
- Construction sites
- Parking lots
- Drive-up retail facilities

Installation and removal only takes one person, competitive units requires two+ persons to complete the job. **One person job!**

U.S. Patent No. 7,201,843





PRODUCT DOCUMENTS
Instruction, Regulations & More.

Stormwater Best Management Practices by protecting y
storm drains and catch basins. It's the sure way to catch
and sediment headed into storm drains and sewers.
Equipped with an oil-absorbent media in a screened bag
Storm Sentinel guards against any potential discharge.

ENPAC's enhanced design has dramatically increased t
surface area for greater sediment retention while decrea
the depth of the unit in the catch basin.

1341 & 1344 fit any size rectangular catch basin's
from 16"x20" to 28"x36". XL version fits rectangu
catch basin's up to 42"x42".
1340 & 1343 fit any size round catch basin's from
27" to 29" in diameter. Custom sizes available.
Up to 500 GPM overflow rate helps avoid ponding
Requires no special tools to install.
Helps comply with NPDES, 40 CFR 122.26 when
used as Best Management Practice in Storm Water
Pollution Prevention Plans.

TO INSTALL: Remove grate and adjust wire frame to fi
recess. Place insert into recess and frame into corners.
Replace metal grate.

TO REMOVE: Simply lift the grate, grab the handle and
out the insert. No part of the insert extends above the
surface.

Round, 27 to 29"

Product No.: 1340-TD
Description: Trash & Debris
Weight: 2 lbs. / 1kg

Product No.: 1340
Description: Trash, Sediment, Debris
Weight: 2 lbs. / 1 kg

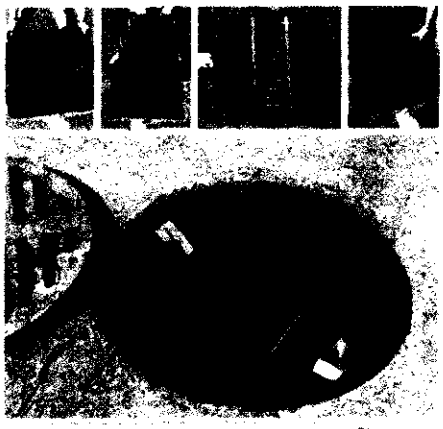
Product No.: 1343
Description: Trash, Sediment, Debris, Oils, Hydrocarbor
Weight: 3 lbs / 1.4 kg

Rectangular, 16x20" to 28x36"

Stormwater

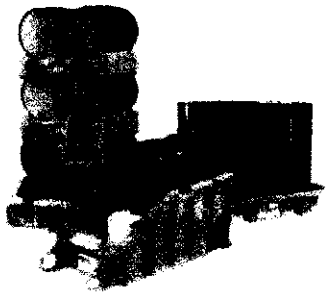
Storm Sentinel Adjustable Catch Basin Insert™
Storm Sentinel Adjustable Curb Inlet Insert™

Storm Sentinel Adjustable Catch Basin Insert™

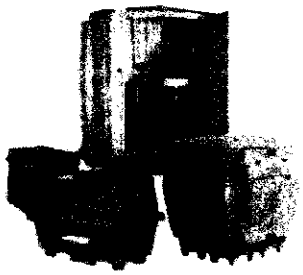


PRODUCT DOCUMENTS
Instruction, Regulations & More.

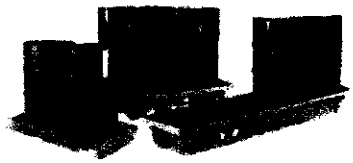
Salvage Drums



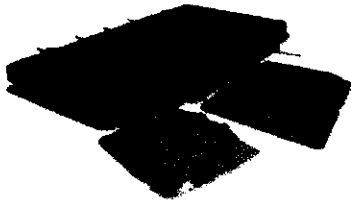
Dispensing



Storage

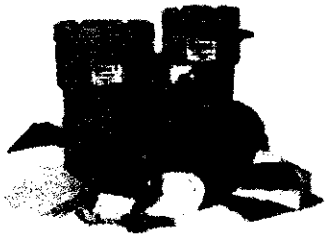


Pallets



Portable Containment

Sorbents



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ENVIROMET

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Buy Now!

Storm Drain Defender

- The Storm Drain Defender is a simple sheet of geotextile fabric supported by a wire frame. rectanglular or round models both adjust to fit a variety of drain sizes. The entire unit is under the grate, no excess fabric extends above the grate, creating a safer enviroment for pedestians. No triming required.
- The Storm Drain Defender is an inexpensive, easy to use Best Management Practice (BMP), a vital part of any Storm Water Pollution Prevention Plan.
- The first step to comply with the stringent EPA standards.

Back to Index

Catch Basin Insert

A Catch Basin Insert is a temporary device that fits into a storm drain to effectively improve the water quality of our Lakes, Streams, and Oceans. Our catch basin insert goes into many sizes of catch basin that include a grate or curb inlet where storm water enters the catch basin and a sump captures sediment, debris and associated pollutants. They are also used in combined sewer watersheds to capture floatable and settle some solids. Catch basins operate as precaution to reduce the amount of pollutants that enter the water way. The Storm Drain Defender Catch Basin Insert is constructed of 8 ounce geotextile fabric that is held in place under the basin grate utilizing a simple wire frame. The wire frame is adjustable to expand or reduce to fit a wide variety of sizes. Both rectangular and round models are available. Regular maintenance is required to preserve the quality and effectiveness of the Catch Basin Insert. The Catch Basin Insert used property and maintained will drastically reduce the amount of pollutants that enter the storm water system including sediment, oil, heavy metals, trash and debris. The Catch Basin Inserts offered by Spill-Kit are easier to use than those of its competitors. The wire frame allows for easy installation and removal.

Spill-Kit has been one of the pioneers in the field of Catch basin insert. The company has gained a list of loyal customers for its excellent enduring services. Along with service, Spill Kit offers consultation and guidance to its customers to let them choose the best. The customer service desk works hard to offer assistance. Such prompt service has resulted in taking Spill-Kit to the higher level and a better position and name over the years. We offer several sizes and configurations in standard dimensions that fit into a wide range of existing vaults and structures. We also design catch basins for new sites customized to your specifications.

The Storm Drain Defender

Product #	DDSED-RND	DDSED-REC	DDREC-WPIL10	DDRND-WPIL10
Decription	Round Drain Insert	Rectangle Drain Insert	Rectangle w/ Pillow	Round w/ Pillow
Weight	2lbs	2lbs	4lbs	4lbs
Dimensions	Smallest 27" Diameter Largest 29" Diameter	Smallest 16" x 20" Largest 28" x 36"	Smallest 16" x 20" Largest 28" x 36"	Smallest 27" Diameter Largest 29" Diameter
Price	**$54.00**	**$54.00**	**$64.00**	**$64.00**

TOLL FREE
1-800-590-2436

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Feature Product: The Storm Drain Defender

Saving The World One Drain At a Time!

Storm water runoff carries with it dirt and hydrocarbons that pollute our downstream supplies.The Storm Drain Defender traps these pollutants, reducing and controlling entrance of contaminants into our water systems.

ENPAC Insert, Catch Basin

Safety > Spill Control Supplies > Spill Containment Accessories

Catch Basin Insert, 300 Gallons per Minute Flow Capacity, Adjustable to Fit 16 x 20 Inch to 24 x 36 Inch Drains, Height 22 Inches, 1 Gallon Sorbed Capacity, Material Non-Woven Geotextile, Color Black

Grainger Item #	3BU44
Price (ea.)	**$106.65**
Brand	ENPAC
Mfr. Model #	1344
Ship Qty.	1
Sell Qty. (Will-Call)	1
Ship Weight (lbs.)	2.25
Usually Ships**	Today
Catalog Page No.	2356
Country of Origin (Country of Origin is subject to change.)	USA

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Qty.

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Price shown may not reflect your price. Sign in or register

Tech Specs | Additional Information | Compliance & Restrictions | MSDS | Required Accessories | Optional Accessories | Alternate Products | Repair Parts

Item	Catch Basin Insert
Spill Capacity	1
Flow Capacity (GPM)	300
Length	24"
Width	36"
Height	22"
Material	Non-Woven Geotextile Fabric
For Use With	Inside Grates Ranging from 16 x 20 to 24 x 36

View Catalog Page | View Printable Page

The "Usually Ships" reflects when an item is generally expected to ship from Grainger based on its stocking location. Real-time availability information will be shown during the checkout process and on the e-mail order confirmation (for U.S. and Puerto Rico - US customers only). Please allow additional delivery time for international orders.

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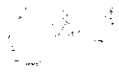

Item #: 4T147
Price (pk.): $33.55
Brand: E-A-R

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Grainger Item #: 4FG05
Price (ea.): $15.65
Brand: MASTER LOCK

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Grainger Item #: 3EWN8
Price (ea.): $88.90
Brand: ULTRATECH

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Grainger Item #: 4FF98
Price (ea.): $15.65
Brand: MASTER LOCK

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Grainger Item #: 6Z838
Price (ea.): $15.82
Brand: GOJO

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catalog page # search

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  - **Safety**
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Results 1 - 6 for **STORM SENTINEL** of 6 | Displaying 30 1

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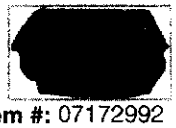 **Item #:** 07172992	**Mfr:** Enpac **Mfr #:** 1344 Big Book Page 3014 **View similar items**	Storm Sentinel Adjustable Catch Basin Inserts Type: Basin Insert w/Sock Applications: Sediment & Oil **Order Qty of 1** = (1) Piece
 **Item #:** 07172968	**Mfr:** Enpac **Mfr #:** 1340 Big Book Page 3014 **View similar items**	Storm Sentinel Adjustable Catch Basin Inserts Type: Basin Insert Applications: Sediment Only **Order Qty of 1** = (1) Piece

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Enpac 1340 Sediment Only Rnd Catch Basin Insert
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Enpac 1344 Sediment&oil W/Sck Rec Catch Basin Insert

by Enpac

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Price: $102.77

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Ships from and sold by **MSC Industrial Supply Co.**.

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Product Specifications

Part Number:	1344
Item Package Quantity:	1

Technical Details

- Package Quantity: (1) Piece
- Type: Basin Insert w/Sock
- Applications: Sediment & Oil
- Shape: Rectangular
- Fits Drain Size (Inch): 16x20 - 24x36

Product Description

Product Description

Storm Sentinel Adjustable Catch Basin Inserts Type: Basin Insert w/Sock Applications: Sediment & Oil

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drillspot		drillspot		

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Adjustable Catch Basin Drain Insert | Catch Basin Filter Insert | 1340 Enpac 1345 Drain Dam | Drain Insert | Catch Basin Insert

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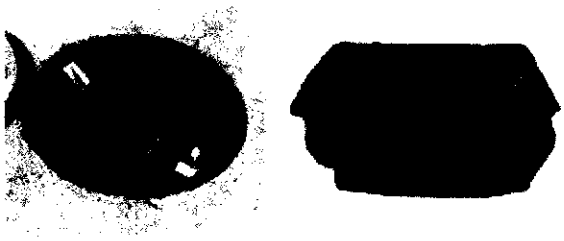


Enpac Storm Sentinel™

by Enpac Llc

Overview

- **300 GPM overflow rate helps avoid ponding.**

Product Description

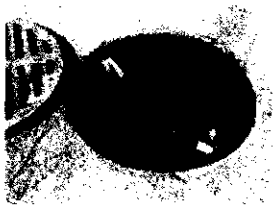
The Storm Sentinel Insert is the sure way to catch oil and sedi sewers. Equipped with an oil-absorbent media in a screened ba against any potential discharge. Fits any size rectangular catch basins up to 24 x 26". Custom sizes are available. Helps comp (1999) when used as Best Management Practice in Storm Wat tools to install. FOB Shipping Point.

Ask a question about this product

Availability: In stock.

ENPAC STORM SENTINEL™			
Product No.	**Description**	**Size W x L x H**	
H1340	Sediment only, Round	24 x 9 x 23"	Re **Speci**
H1341	Sediment only, Rectangle	24 x 9 x 23"	Re **Speci**
H1343	Sediment and oil, Round	24 x 9 x 23"	Re **Speci**
H1344	Sediment and oil, Rectangle	24 x 9 x 23"	Re **Speci**

ENPAC® STORM Sentinel Adjustable Catch Basin Insert, Sediment Only, Black, Pkg. of 1



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Use Adjustable Catch Basin Insert to Trap Stormwater Pollutants in Round Drains

Adjustable Catch Basin Insert has a self-supporting wire frame adjusts to fit round drains from 27–29"-dia. Entire unit fits under the grate with no excess fabric above for a safer pedestrian environment. No trimming required. Overflow outlets allow excessive water from heavy rain showers to bypass the system, reducing flooding or ponding. Maximum overflow rate is up to 300 gpm. Adjustable Catch Basin Insert is manufactured from 8-oz. polypropylene, nonwoven geotextile. Sediment Only. Black. Pkg. of 1.

Compliance: Helps comply with NPDES, EPA 40 CFR 122.26 stormwater regulations.

Qty	Item #	Product	Sell Pack	Click For Avail	Price
0	108548	ENPAC STORM Sentinel Adjustable Catch Basin Inserts	EA		$59.50

ENPAC STORM Sentinel Rectangular Adjustable Catch Basin Insert Sediment Only, 16" x 20" to 24" x 34"-dia. drains

View Larger

- ***Sentinel Rectangular Adjustable Catch Basin Insert Sediment Only***, 16" x 20" to 24" x 34"-dia. drains
- Reduces and controls contaminants entering water systems—trapping stormwater pollutants
- Black color
- Inexpensive and easy to use

Sentinel Adjustable Rectangular Catch Basin Insert Sediment Only with self-supporting wire frames adjust to fit a variety of rectangular drains. Entire unit is under the grate with no excess fabric above for a safer pedestrian environment. No trimming required. Overflow outlets allow excessive water from heavy rain showers to bypass the system, reducing flooding or ponding. Maximum overflow rate is up to 300 gpm. Manufactured from 8-oz. polypropylene, nonwoven geotextile. 16" x 20" to 24" x 34" dia. drains. Black color. ***No. 108548*** also available.

Compliance: Help comply with NPDES, EPA 40 CFR 122.26 stormwater regulations.

Qty	Item #	Product	Sell Pack	Click For Avail	Price
0	108549	ENPAC STORM Sentinel Rectangular Adjustable Catch Basin Insert Sediment Only, 16" x 20" to 24" x 34"-dia. drains	EA		$60.10

Filter Media for HydroKleen® Drain Insert

- FLT807
  one activated carbon filter
- FLT808
  for hydrocarbons
- FLT809
  for phosphorous
- FLT810
  for heavy metal

Storm Sentinel™ Drain Protection Insert

- FLT704
  fits 27" to 29" dia. drains
- FLT706
  fits drains 16" x 24" to 24" x 34"

Storm Sentinel™ Drain Protection Insert with Imbiber Beads™

- FLT705
  fits 27" to 29" drains
- FLT707

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Storm Sentinel Catch Basin Insert

WED, 11/17/2010 - 7:02PM BY DEBILANDEAUXX

After many years of theory, field analysis, data, invented programs, research and conclusion, the Sea Life Saver Liner was officially invented in order to collect, capture, contain and filter the containments found in stormwater discharge. As a trained chemical processor and specialist at moon suite levels a catch basin insert was invented by Dr. Chassidy F. Lucas for her designed liner. The "cage / basket" was invented in order to keep the "structure" of the filtering liner allowing any stormwater that fills the liner, in the filtration process, to filter the water containing any particulates and slowly release it. This way the water is CAPABLE to continue the filtration process instead of spilling therefore to NOT cause and contribute uncontrolled pollution to enter our water ways. See the Sea Life Saver catch basin insert patent no. 7,771,591 exhibit "K".

EXHIBIT K

US007771591B2

(12) **United States Patent**
Lucas

(10) **Patent No.: US 7,771,591 B2**
(45) **Date of Patent: Aug. 10, 2010**

(54) **FILTER SYSTEM FOR CATCH BASINS**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 6 days.

(21) Appl. No.: **11/977,226**

(22) Filed: **Oct. 23, 2007**

(65) **Prior Publication Data**

US 2009/0101553 A1 Apr. 23, 2009

(51) **Int. Cl.**
E03F 5/06 (2006.01)

(52) **U.S. Cl.** **210/163**; 210/337; 210/339; 210/455; 210/474; 210/489; 404/4

(58) **Field of Classification Search** 210/163, 210/164, 170.03, 337, 339, 455, 461, 474, 210/489; 404/4, 5
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,419,232	A *	12/1983	Arntyr et al.	210/164
5,405,539	A *	4/1995	Schneider	210/163
5,733,445	A *	3/1998	Fanelli	210/164
6,086,758	A *	7/2000	Schilling et al.	210/164
6,562,233	B1 *	5/2003	Schilling et al.	210/164
6,872,029	B2 *	3/2005	Allard et al.	210/164
7,112,274	B1 *	9/2006	Sanguinetti	210/163
7,132,045	B1 *	11/2006	Trangsrud	210/163
7,524,414	B1 *	4/2009	Barragan	210/163
2008/0290042	A1 *	11/2008	Hanson et al.	210/164

* cited by examiner

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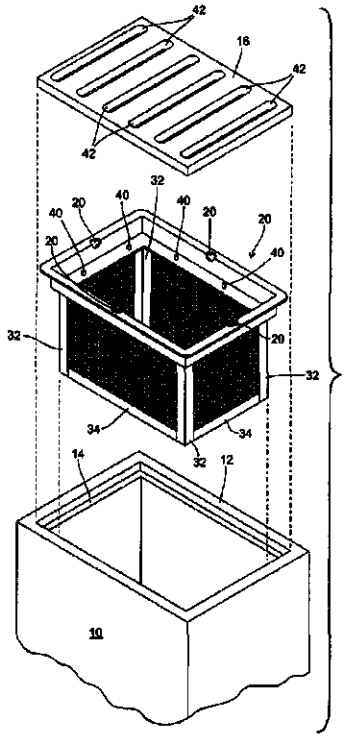
(57) **ABSTRACT**

A first filter basket (**20**) sits down into a catch basin (**10**) and has an upper flange (**24**) that rests on a shoulder (**14**) provided in the catch basin (**10**) for supporting a grate (**16**). The filter basket (**20**) has expanded metal side and bottom walls which are adapted to pass liquid and catch particulate material larger in size than the wall openings. A geo-textile liner (**42**) is optionally positioned inside of the filter basket (**20**). The liner (**42**) is supported on a lower rim flange (**26**). Posts (**40**) on the rim flange (**26**) extend upwardly through openings (**66**) in marginal portions of the liner (**42**). A smaller second filter basket (**72**) is optionally supported inside the larger first filter basket (**20**). An absorbent pillow (**90**) may be positioned between the bottoms of the two filter baskets (**20**, **72**) to catch and absorb oils and greases that are in the liquid that enters the catch basin (**10**).

21 Claims, 9 Drawing Sheets



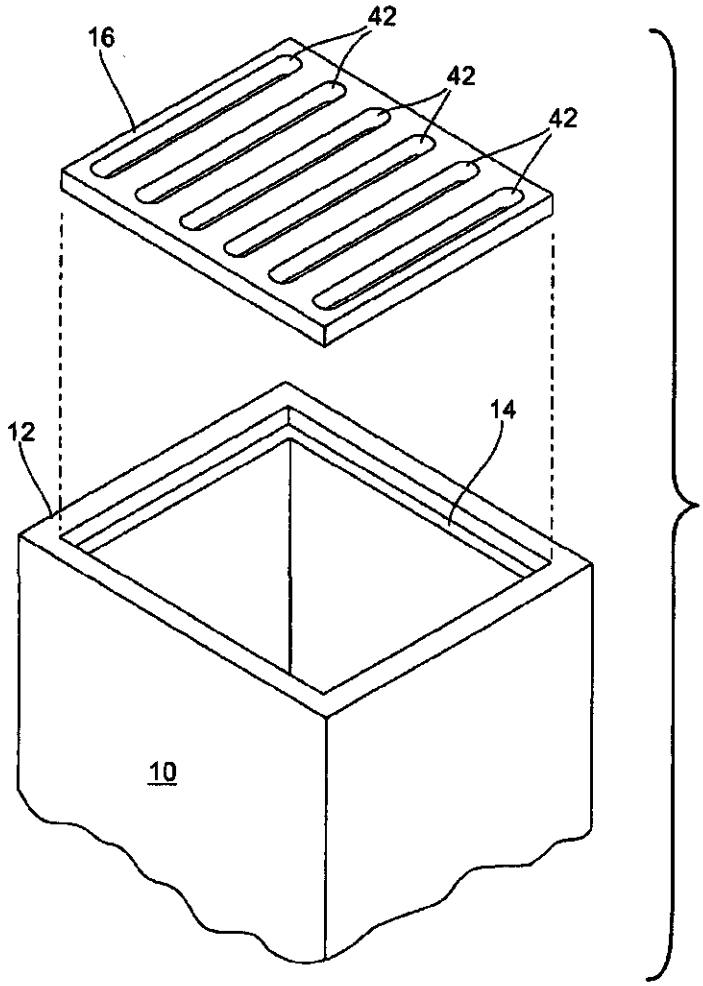


Fig. 1
(PRIOR ART)

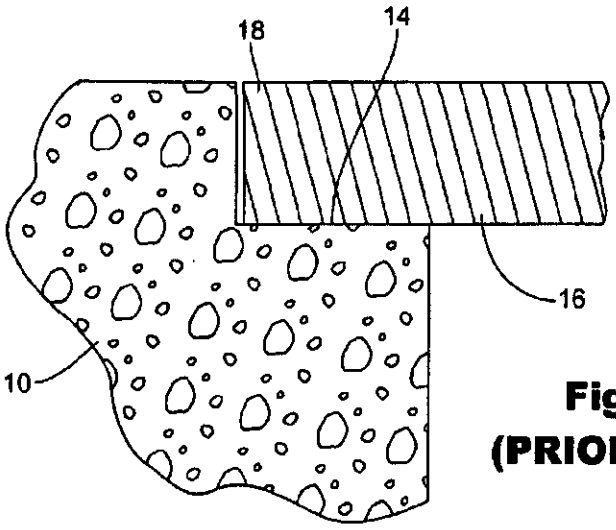


Fig. 2
(PRIOR ART)

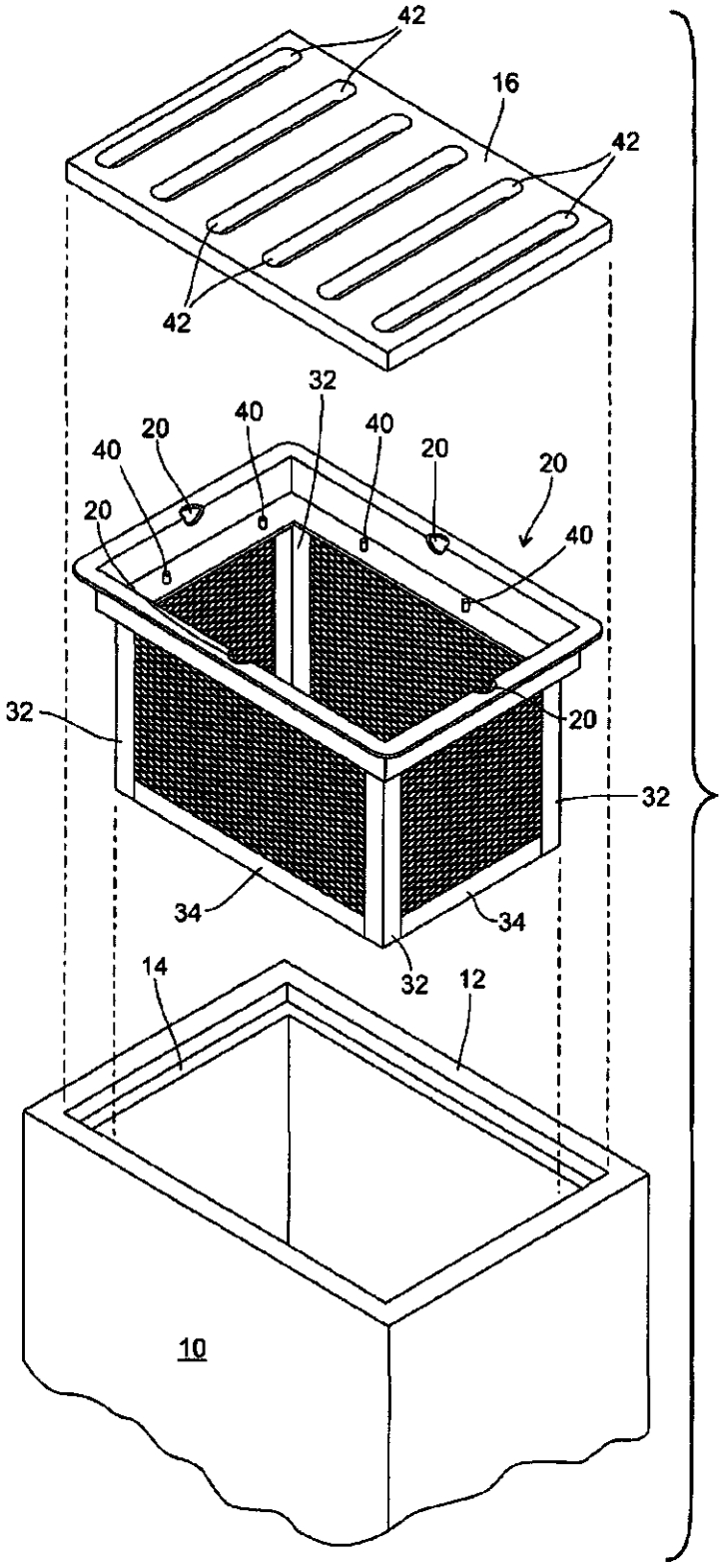


Fig. 3

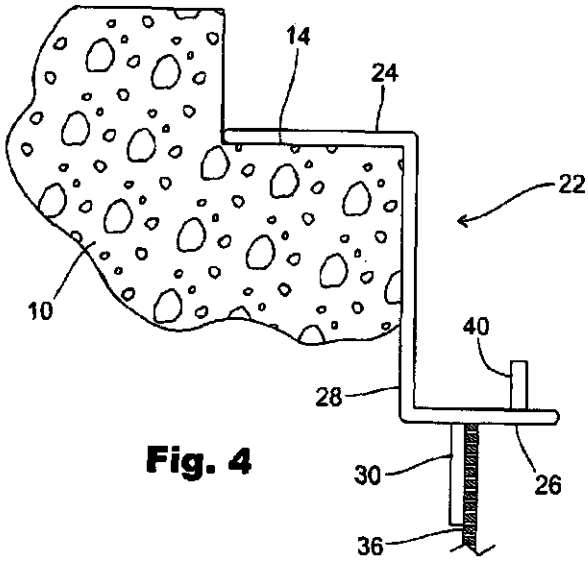


Fig. 4

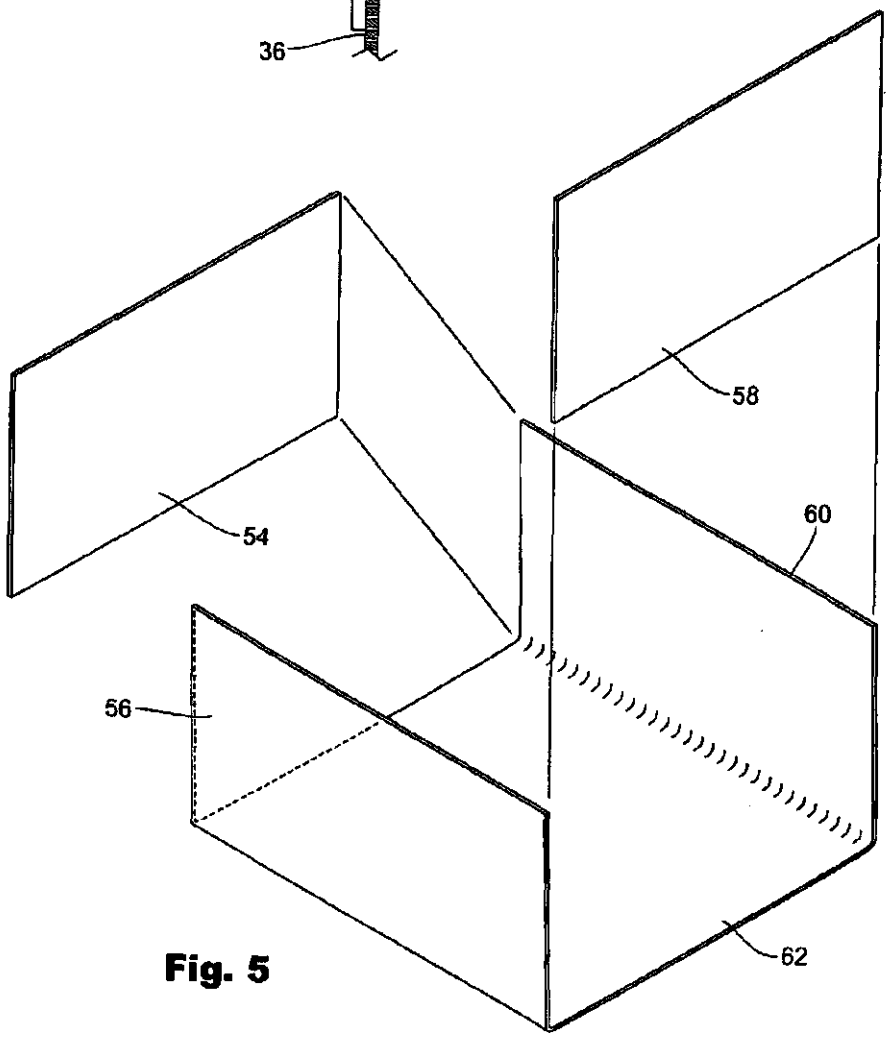


Fig. 5

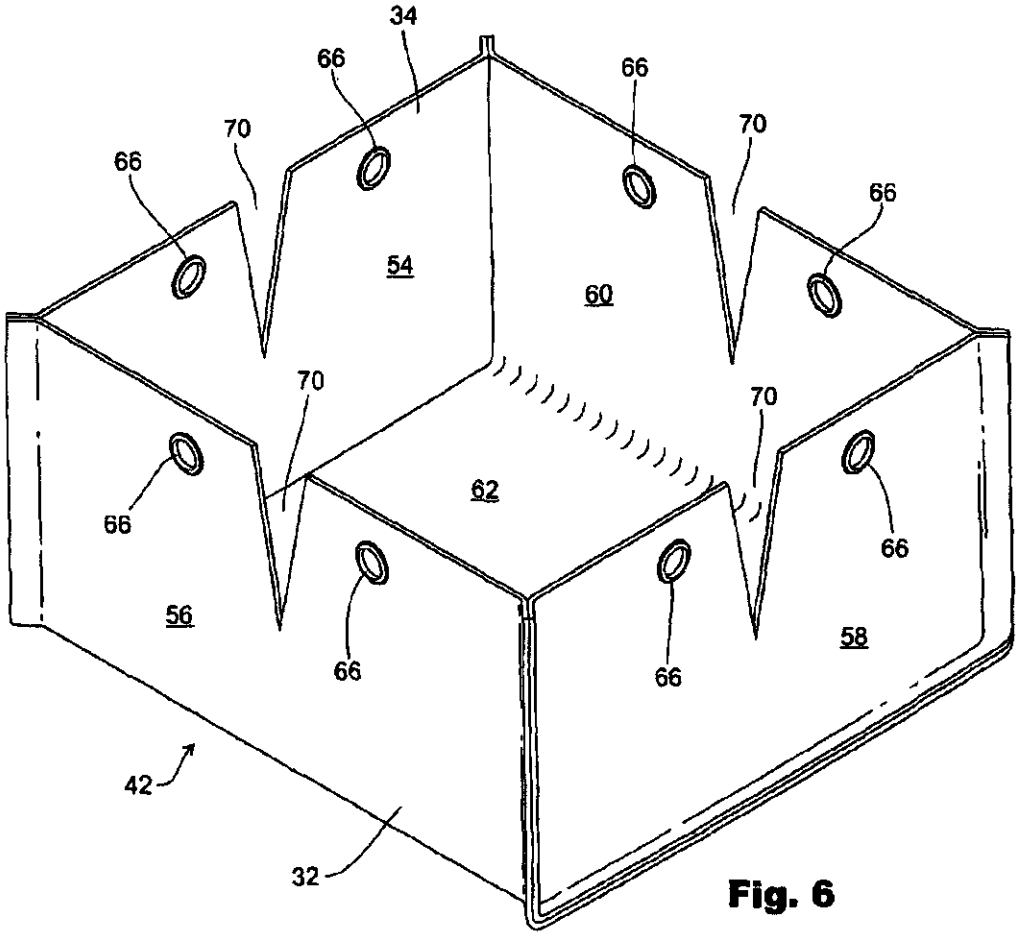


Fig. 6

Fig. 7

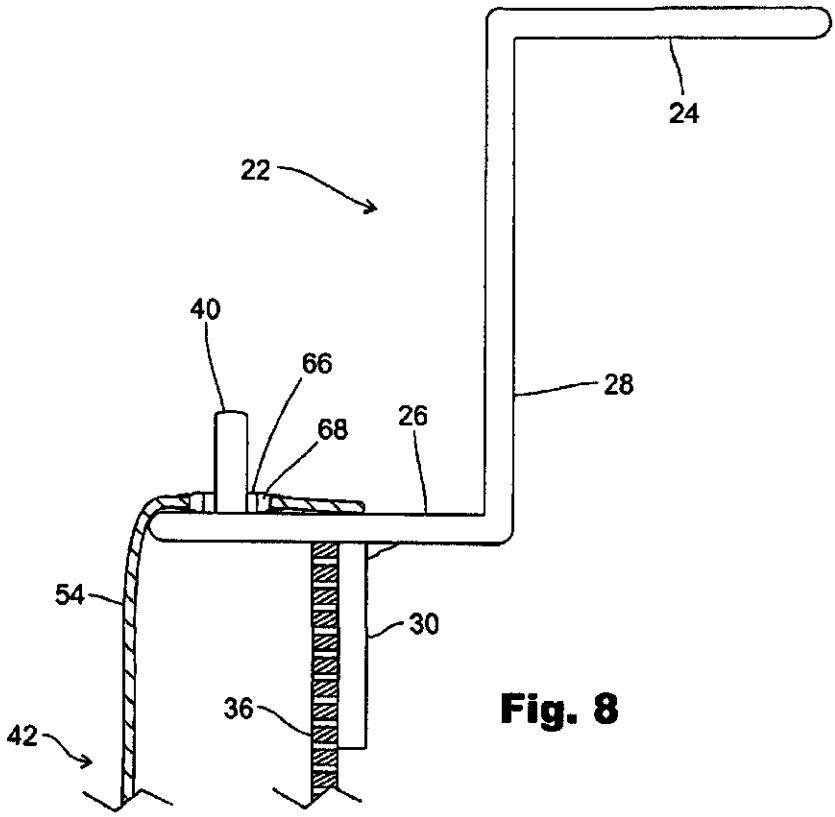


Fig. 8

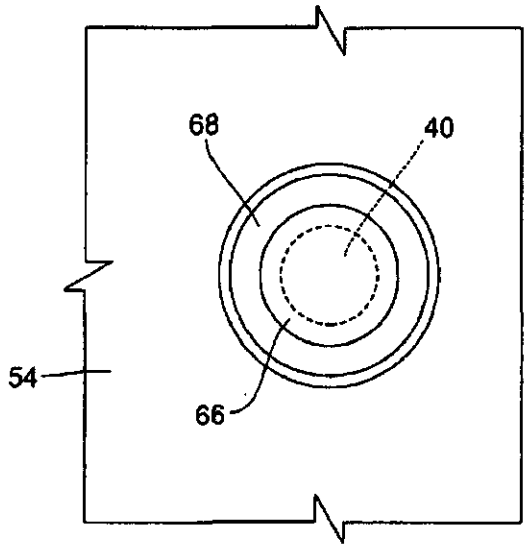


Fig. 9

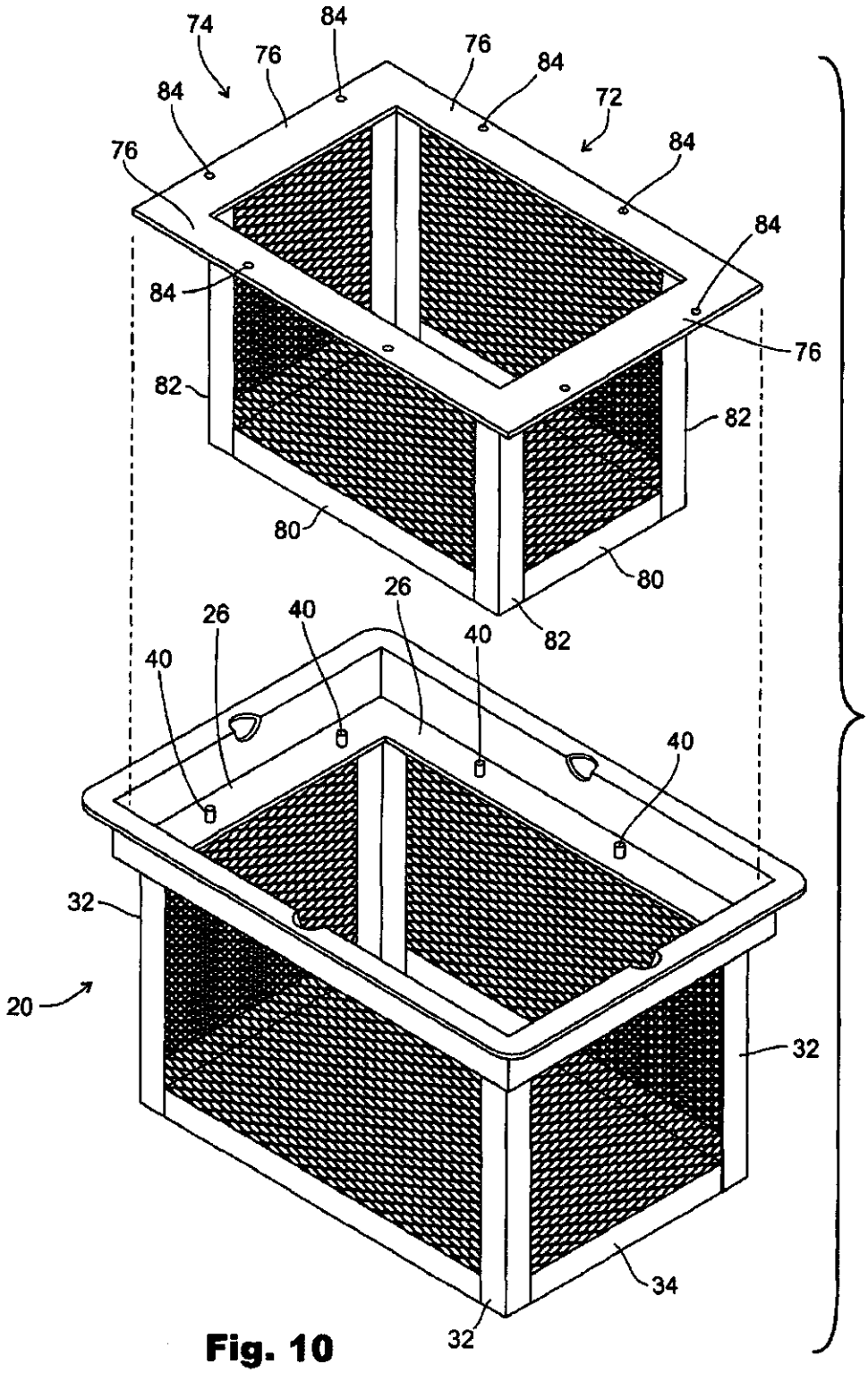

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Fig. 10

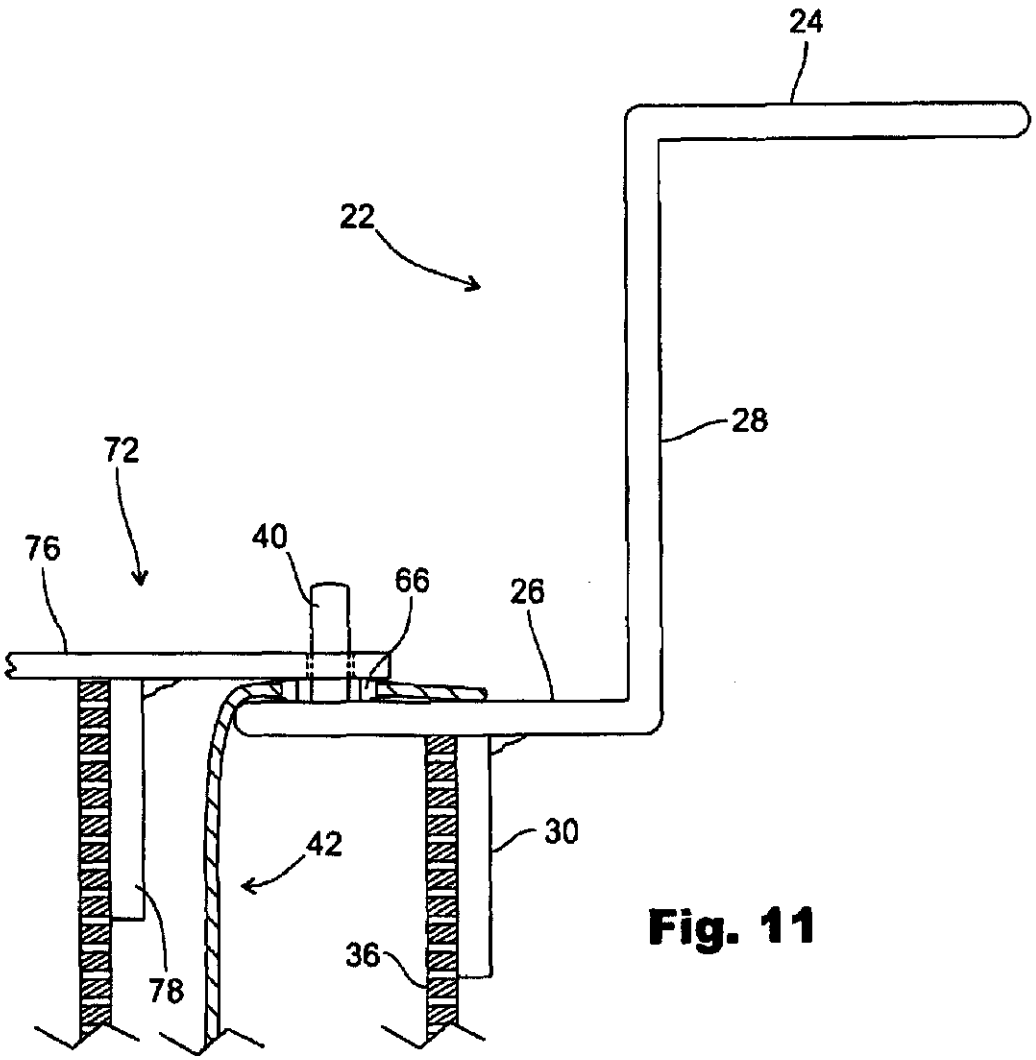

Fig. 11

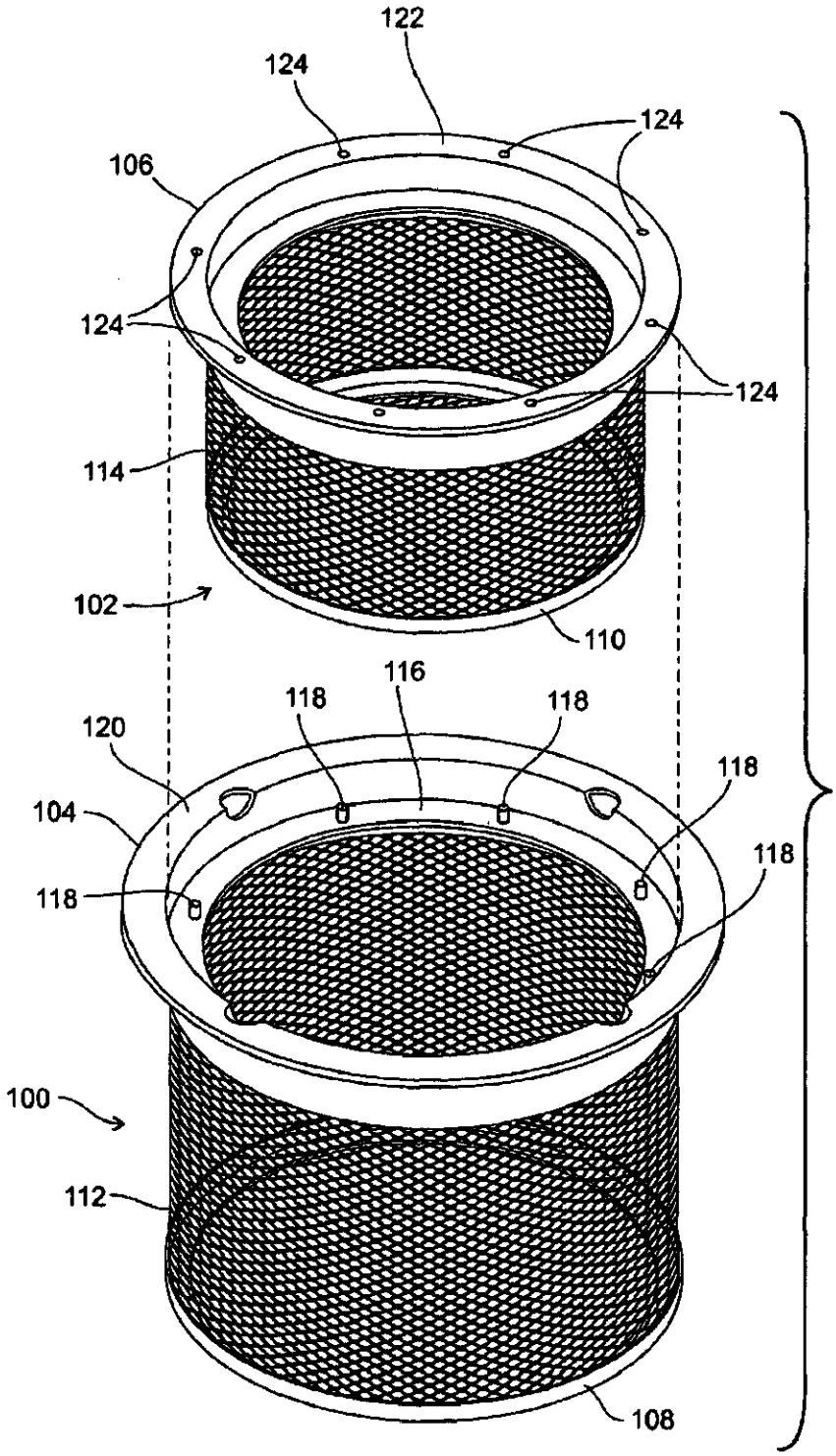
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Fig. 12

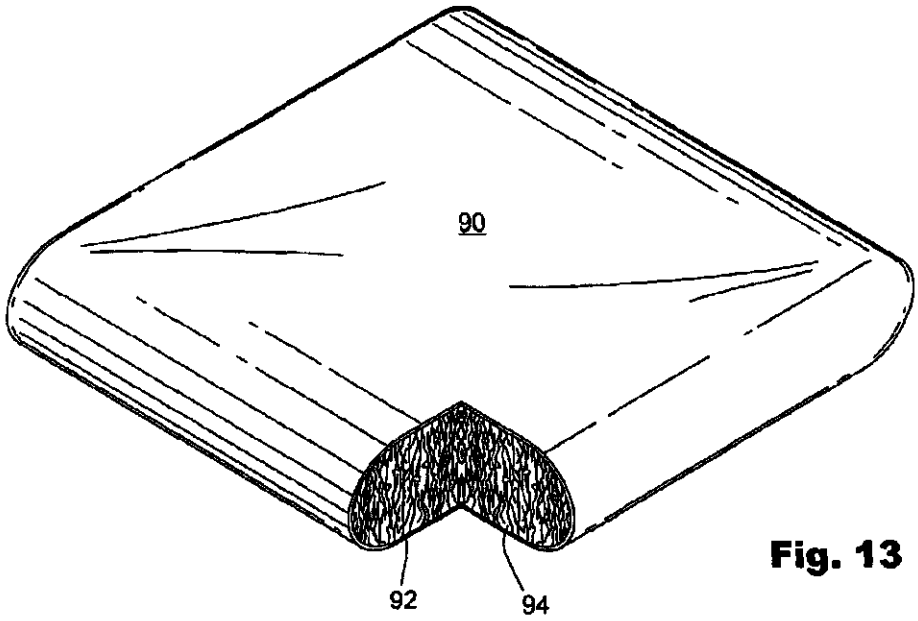

Fig. 13

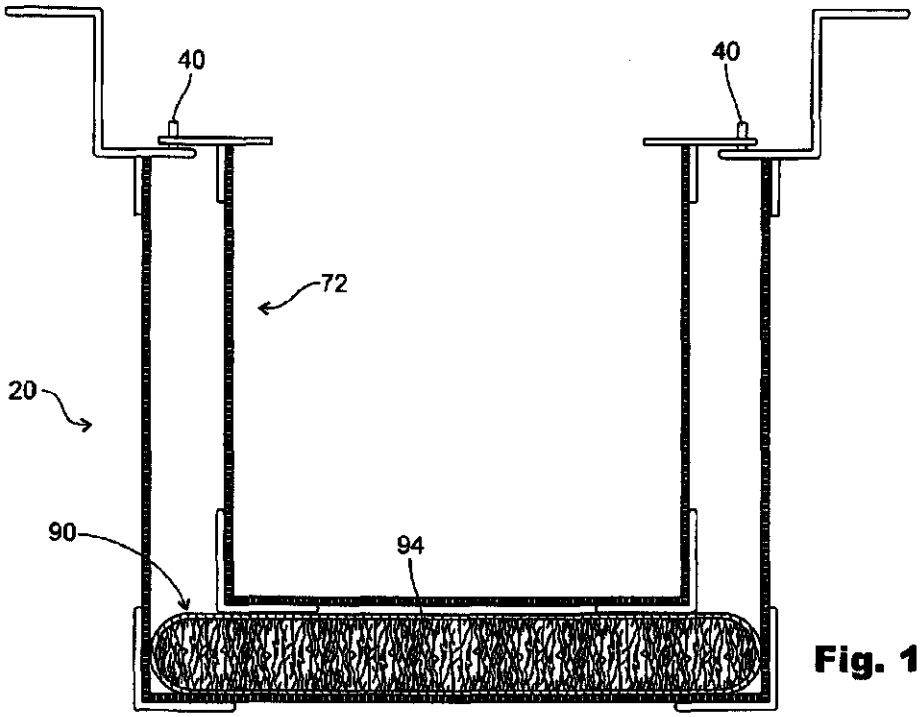

Fig. 14

FILTER SYSTEM FOR CATCH BASINS

TECHNICAL FIELD

The present invention relates to catch basins used in drainage systems. More particularly, it relates to a filter system for removing debris and contaminants, including oil and grease from the drain water so that they will not enter the system of drainage pipes to which the catch basins are connected.

BACKGROUND OF THE INVENTION

It is common to collect drainage water by use of a system of catch basins which are buried in the ground and are connected to a network of drain pipe. A problem is that the drainage water often includes debris and contaminants, and sometimes oil and grease. It is not desirable for these contaminants to get into the drain water which is expect to eventually reenter the earth's rivers, etc. which include fish, etc. There is a need for an effective and economic system for removing the debris and contaminants from the drainage water. The main object of this invention is to fill this need by providing a filter system installable into the catch basins for catching the debris and contaminants and removing them from the drainage water. It is a further object of the present invention to provide such a filter system which is easy to install, remove and maintain.

BRIEF SUMMARY OF THE INVENTION

A typical catch basin has side and bottom walls, a top opening and a grate which extends over the top opening. The catch basin is buried and the grate is substantially flush with the surface surrounding the catch basin. Lower interior regions of the catch basins are connected to drainage pipes which form a drainage pipe network. The filter system of the present invention includes a filter basket having horizontal and vertical frame members and pervious side and bottom walls that are secured to the frame members. An outwardly directed upper flange is adapted to set down onto the grate supporting shoulder of the catch basin when the filter basket is inside the catch basin. An inwardly directed lower flange is spaced below the upper flange, and a vertical wall extends between the upper and lower flanges. The lower flange includes vertically upwardly extending posts spaced laterally from the vertical wall.

Another aspect of the invention is the provision of a filter member that is smaller than the filter basket. The filter member is positioned inside the filter basket and has side and bottom walls. The sidewalls include upper rim portions which include openings for receiving the posts on the lower flange of the filter basket. Preferably, the filter member is made from a fabric material that is adapted to absorb small particles.

In preferred form, one, some or all of the sidewalls of the filter member include a cutaway that extends from an upper edge of the sidewall downwardly into the sidewall. In preferred form, all four of the sidewalls of the filter member have these cutouts. In some embodiments, the upper rim portion of the filter member includes four side parts, one for each sidewall of the filter member. Two openings are provided in each side part of the rim portion. The lower flange of the filter basket includes a post for each said opening.

According to another aspect of the invention, a second filter basket is provided and is sized to sit down into the first filter basket. The second filter basket has side and bottom walls that are spaced inwardly and upwardly from the side and bottom walls of the first filter basket. The second filter basket has a flange at its upper end that includes openings into which the mounting posts are received when the second filter basket is in the first filter basket. When the second filter basket is inside the first filter basket, spaces exist horizontally between the sidewalls of the first and second filter baskets and vertically between the bottoms of the first and second filter baskets.

According to yet another aspect of the invention, an absorbent filter pillow is positioned inside the first filter basket between the bottom of the first filter basket and the bottom of the second filter basket. This absorbent filter pillow includes a pervious cover or casing and oil-absorbing filler material inside the cover or casing.

Preferably, the side and bottom walls of the filter baskets are constructed from expanded metal. In some embodiments, the filter basket has four quadrate sides and a quadrate bottom. In other embodiments, the filter basket has a cylindrical sidewall, a circular bottom wall, and a top flange in the form of a circular ring.

Other objects, advantages and features of the invention will become apparent from the description of the preferred embodiments set forth below, from the drawings, from the claims and from the principles that are embodied in the specific structures that are illustrated and described.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Like reference numerals refer to like parts throughout the several views of the drawing, and:

FIG. **1** is a fragmentary pictorial view of a conventional catch basin, with a grate at its top shown spaced vertically above the grate's installed position;

FIG. **2** is a fragmentary sectional view showing an edge portion of the grate sitting down onto a shoulder formed in the main body of the catch basin, such view showing the shoulder supporting an edge portion of the grate;

FIG. **3** is a view like FIG. **1**, but showing a filter basket of the present invention positioned between the catch basin and the grate;

FIG. **4** is a view like FIG. **2**, but showing an edge portion of the filter basket being supported on the shoulder of the grate;

FIG. **5** is an exploded pictorial view of a three-piece liner in an unassembled condition;

FIG. **6** is a view like FIG. **5**, but showing the parts of the liner connected and the liner being adapted to fit into the filter basket;

FIG. **7** is a view showing a corner region of the liner shown by FIG. **6**, such view showing a way of connecting the sidewalls of the liner;

FIG. **8** is a fragmentary sectional view taken where a mounting ring on a mounting flange portion of the liner is on a mounting pin carried by a flange that projects laterally inwardly from a rim portion of the filter basket;

FIG. **9** is a fragmentary plan view of the liner flange showing the mounting pin and mounting ring;

FIG. **10** is an exploded pictorial view of the filter basket shown by FIG. **1** and a second smaller filter basket that is adapted to fit inside the first filter basket of FIG. **1**;

FIG. **11** is a view like FIG. **8**, but showing the smaller filter basket positioned inside the larger filter basket with its supporting flange resting on the supporting flange of the larger filter basket;

FIG. **12** is a view like FIG. **10**, but showing filter baskets having a cylindrical shape;

FIG. **13** is a pictorial view of an oil absorbent filter pillow, taken from above and looking down towards the top and two sides where they meet at a corner such view showing the

foreground corner portion of the pillow cut away and showing the oil absorbing material that is inside the pillow; and

FIG. **14** is a vertical sectional view taken through both baskets and the oil absorbent filter pillow.

DETAILED DESCRIPTION OF THE ILLUSTRATED EMBODIMENT

FIGS. **1** and **2** show a conventional catch basin **10** which is typically constructed from concrete and includes closed side and bottom walls and an open top. The top is surrounded by a rim **12** and a shoulder **14** spaced below the rim **12**. Shoulder **14** normally receives and supports a grate **16** which is typically constructed from cast iron. FIG. **2** shows an edge portion **18** of the grate **16** resting on the shoulder **14**. FIG. **3** shows a filter basket **20** that is adapted to fit down inside the catch basin **10**. Filter basket **20** has an upper rim portion **22** comprising an upper flange **24**, a lower flange **26** and a vertical wall **28**. Actually, upper rim structure **22** has four flanges **24**, four flanges **26**, and four walls **28**. Each flange **24** projects laterally outwardly from its wall **28** and each flange **26** projects laterally inwardly from its wall **28**. Flanges **24** and **26** are parallel to each other and perpendicular to the walls **28**, as clearly shown by FIG. **4**.

In addition to the upper rim structure **22**, the basket **20** has horizontal and vertical frame members that are best shown by FIGS. **3**, **4** and **8**. The frame members include an upper horizontal frame member **30** on each side, vertical frame members **32** at each corner and horizontal frame members **34** extending between the bottom ends of the frame members **32**. As shown by FIGS. **4** and **8**, the upper horizontal frame members **30** extend vertically and are parallel to walls **28** and are perpendicular to flanges **24**, **26**. Frame members **32**, **34** are preferably lengths of angle iron. The four sides and bottom walls of the basket **20** are preferably constructed from sheets of expanded metal or some other suitable pervious material. These walls **36** are welded to the frame members **30**, **32**, **34**.

The basket **20** is adapted to fit inside the catch basin **10** with its upper flanges **24** resting on the shoulder **14**, as shown by FIG. **4**. Once the filter basket is inside the catch basin **10**, the grate **16** can be installed so that it will sit down onto the flanges **24**. The presence of the flanges **24** will raise the grate **16** slightly from the position it occupies on the shoulder **14** when the basket **20** is not inside the catch basin **10**.

As shown by FIGS. **3**, **4**, **8**, **10** and **11**, the flanges **28** are provided with vertical posts **40**. Posts **40** are spaced apart on the lower rim flange **26**. By way of typical example, there may be two posts **40** on each rim flange **26**. The posts **40** extend vertically and are perpendicular to the flanges **26**. The purpose of the posts **40** is hereinafter described.

When the filter basket **20** is inside the catch basin **10**, everything that enters the catch basin **10** through the openings **42** in the grate **16** must first enter the filter basket **20** before going any further in the catch basin **10**. As can be easily appreciated, solid materials that are small enough to pass through the grate openings **42** but too large to pass through the openings in the side and bottom walls of the basket **20** are collected in the basket. The openings in the side and bottoms walls of the filter basket **20** are small enough that all but the smallest particulate material is captured in the filter basket **20**.

FIGS. **8**, **11** and **14** illustrate a nesting filter device comprising at least a larger filter basket (**22**). Seen in FIGS. **8**, **11** and **14** are successive additional filter devices added in addition to the at least a larger filter basket (**22**). The filter basket **20** may be provided with a geo-textile liner for increasing the filtration effectiveness of the system. Referring to FIGS. **5-7**, the liner **42** may be constructed to have four sidewalls **54**, **56**, **58**, **60** and a bottom wall **62**. As shown by FIG. **5**, the liner **42** may be conveniently constructed from three pieces of the liner material. Two pieces form the sidewalls **54**, **58**. A third larger piece forms the sidewalls **56**, **60** and the bottom **62**. As shown by FIG. **5**, a piece of the material is cut to the proper size to form sidewalls **56**, **60** and bottom **62**. The sidewall portions **56**, **60** of the material are bent upwardly relative to the rest of the material which forms the bottom **62**. Members **54**, **58** are suitable sized to close the ends of the U-shaped structure **56**, **60**, **62**. As shown by FIG. **7**, at the corners where they meet, the sidewall panels **54**, **56**, **58**, **60** may be brought together and connected by stitching **64** which extends through border portions of the panels **54**, **56**, **58**, **60** at the four corners. A suitable fabric for use in making the liner is a membrane liner that was developed for hazardous waste containment. This material is used in roadways, parking lots, construction compounds, industrial storage areas, embankments, dykes, railways, and ridge abutments, and also as a liner for landfills. PermeaTex is a trademark for a particular geotextile product that is marketed by Northwest Linings & Geotextile Products, Inc., having a business address of 21000 77th Avenue S., Kent, Wash. 98032. There are similar linings made by other manufacturers. For example, Geotextiles TNS Advance Technologies makes woven and non-woven geotextiles. Geotextiles TNS Advance Technologies has a place of business at 681 De Young Rd., Greer, S.C. 29651.

As shown by FIG. **6**, the upper margins of the sidewalls **54**, **56**, **58**, **60** are provided with openings **66** which are sized and positioned to receive the posts **40** on the lower rim flange **26** of basket **20**. Preferably, the openings **66** are reinforced by metal rings or grommets **68** or some other suitable reinforcing structure. FIG. **9** shows that with the grommet **68** attached to the fabric members **54**, **56**, **58**, **60**, around the openings in the fabric, the center openings in the grommets **68** become the pin-receiving openings **66**.

Referring to FIG. **6**, the upper portions of the liner sidewalls **54**, **56**, **58**, **60** may be cut away at **70**, between the openings **66**. This provides some adjustability for the upper corner portions of the liner **42**, facilitating the installation of the liner **42** inside the basket **20**. The cutouts **70** start at the upper edges of the sidewalls **54**, **56**, **58**, **60** and extend downwardly into the sidewalls **54**, **56**, **58**, **60**. Their presence facilitates the movement of the liner necessary to register the posts **40** with the openings **66**. The cutouts **70** also provide passageways for some of the liquid collected in the liner whenever the pores of the liner become plugged.

The liner height d is a variable. The height d may substantially equal to the height of the inner space of the basket **20** or may be smaller, as shown in FIG. **6**.

When the filter basket **20** is used without a liner **42**, it must be periodically removed, emptied and cleaned. When the liner **42** is used, it must be removed and cleaned whenever its pores become clogged.

The filtration system may include a second filter basket **72** that is sized to fit down into the larger first filter basket **20**. This is shown by FIGS. **10** and **14**. Basket **72** has an upper rim **74** composed of side members **76** which are connected together where they meet at the corners of the basket **72**. Filter basket **72** includes upper and lower horizontal frame members **78**, **80** and vertical corner frame members **82**. Filter basket **72** also includes sidewalls and a bottom constructed from expanded metal or some other suitable pervious material.

The smaller filter basket **72** is sized to fit down into the larger filter basket **22** with its rim **74** resting on the rim flange **26** and the posts **40** extending through openings in rim **74**. The

inner basket **72** may be used along with the liner **42** in which case the liner **42** is installed first and then the filter basket **72** is installed (FIG. **11**). Or, the absorbent liner **42** may be omitted and an absorbent pillow **90** may be used in its place. As shown by FIG. **13**, pillow **90** is similar in construction to a head pillow in that it consists of an outer fabric cover or casing **92** and a filler material **94**. As shown by FIG. **14**, when the smaller filter basket **72** is inside the larger outer basket **20**, a vertical space exists between the bottoms of the two baskets. Preferably, the pillow **90** is adapted to fit in and perhaps fill the vertical space between the bottoms of the two baskets **20**, **72**. The filler material **94** may be a material which will catch and absorb oils and greases that are in the drain water. When the system shown by FIG. **14** is used, the debris in the drain water will be captured in the inner basket **72**. The drain water will pass through the openings in the sidewalls of the two baskets **72**, **20** and move to the bottom of the catch basin **10** where drain pipes are connected. Oils and greases in the drain water will be absorbed by the filter pillow **90**. When it comes time to clean the system, it is only necessary to remove the grate **16** and pull the inner basket **72** out from inside the outer basket **20**. Then, the absorbent pillow **90** can be removed and cleaned or replaced by another filter pillow **90**. It may not be necessary to remove the outer basket **20** or, if the sidewalls and/or bottom of the outer basket **20** need to be cleaned, it can be easily removed from the catch basin, cleaned, and then returned. All of these procedures can be quickly and easily performed by a single person.

It is within the scope of the invention to use cylindrical baskets **100**, **102** with cylindrical catch basins (not shown). The baskets **100**, **102** may include upper rim structures **104**, **106**, lower rim structures **108**, **110** and expanded metal sidewalls **112**, **114**. The larger basket **100** may include a lower rim flange **116** which includes posts **118**. It may also include an upper rim flange **120** which is adapted to sit down onto the grate-supporting shoulder of a cylindrical catch basin. The smaller basket **102** includes an upper rim flange **122** having post-receiving openings **124**.

The illustrated embodiments are examples of the present invention and, therefore, are non-limitive. It is to be understood that changes in the particular structure, materials and features of the invention may be made without departing from the spirit and scope of the invention. Therefore, it is my intention that my patent rights not be limited by the particular embodiments that are illustrated and described herein, but rather the invention is to be determined by the following claims, interpreted according to accepted doctrines of patent claim construction.

What is claimed is:

1. A filter system for a catch basin that receives water runoff and includes a top inlet surrounded by a shoulder for receiving and supporting a grate, said filter system comprising:

a nesting filter system comprising a least one filter device; and

the at least one filter device comprising at least a larger filter basket (**22**) comprising horizontal and vertical frame members and pervious side and bottom walls secured to the frame members, an upper rim including an outwardly directed upper rim flange adopted to set down onto the grate supporting shoulder of the catch basin when the larger filter basket (**22**) is inside the catch basin, an inwardly directed lower rim flange spaced below the upper flange, and a vertical wall extending between the upper and lower rim flanges; and

said lower rim flange including vertically upwardly extending posts spaced laterally from the vertical wall.

2. The nesting filter system of claim **1**, further comprising;

the at least one filter device further comprising a liner (**42**) having four sidewalls (**54**), (**56**), (**58**), (**60**) and a bottom wall (**62**) is sized to be positioned inside the larger filter basket (**22**) and having an upper flange portion which includes openings for receiving the posts on the lower rim flange of the larger filter basket (**22**), said posts extending through said openings.

3. The nesting filter system of claim **2** wherein the liner (**42**) is made from a fabric material adapted to absorb small particles.

4. The nesting filter system of claim **2**, wherein at least one of the sidewalls of the liner (**42**) includes a cut away portion that extends from an upper edge of the sidewall downwardly into the sidewall.

5. The nesting filter system of claim **4**, wherein all four sidewalls of the liner (**42**) have cutouts extending from upper edges of the walls downwardly into the walls.

6. The nesting filter system of claim **5**, wherein the upper flange portion of the liner (**42**) includes four side parts and two openings in each side part, and the lower rim flange of the filter basket includes a post for each said opening.

7. The nesting filter system of claim **6**, wherein the openings in the upper flange portion of the liner (**42**) are structurally reinforced by a ring member that surrounds the opening.

8. The nesting filter system of claim **2**, further comprising;

a second filter basket (**72**) that sits down into the liner (**42**); and

the second filter basket (**72**) has side and bottom walls spaced inwardly and upwardly from the side and bottom walls of the liner (**42**); said second filter basket (**72**) having a flange at its upper end that includes openings into which the mounting posts are received when the second filter basket (**72**) is seated down into the liner (**42**).

9. The nesting filter system of claim **1** further comprising;

a second filter basket (**72**) that sits down into the at least a larger filter basket (**22**) and has side and bottom walls spaced inwardly and upwardly from the side and bottom walls of the at least a larger filter basket (**22**), said second filter basket (**72**) having a flange at its upper end that includes openings into which the mounting posts are received when the second filter basket (**72**) is in the at least a larger filter basket (**22**), whereby when the second basket (**72**) is inside the at least a larger basket (**22**) spaces exist horizontally between the sidewalls of the at least a larger filter basket (**22**) and the second filter basket (**72**) and vertically between the bottoms of the at least a larger filter basket (**22**) and the second filter basket (**72**).

10. The nesting filter system of claim **9**, further comprising an absorbent filter pillow positioned inside the at least a larger filter basket (**22**) between the bottom of the at least a larger filter basket (22) and the bottom of the second filter basket (**72**).

11. The nesting filter system of claim **10**, wherein the absorbent filter pillow includes a pervious casing and an oil absorbing filler material inside the casing.

12. The nesting filter system of claim **1**, wherein the at least a larger filter basket (**22**) has expanded metal side and bottom walls.

13. The nesting filter system of claim **1**, wherein the at least a larger filter basket (**22**) has four quadrate sides and each side and the bottom is a quadrate.

14. The nesting filter system of claim **13**, wherein the at least a larger filter basket (**22**) has expanded metal side and bottom walls.

15. The nesting filter system of claim **1**, wherein the at least a larger filter basket (**22**) has a cylindrical sidewall and a circular bottom wall, and the top flange is a circular ring.

16. The nesting filter system of claim **15**, wherein the at least a larger filter basket (**22**) has expanded metal side and bottom walls.

17. A nesting filter system for a catch basin that receives water runoff and includes a top inlet surrounded by a shoulder for receiving and supporting a grate, said filter system comprising:

at least a larger filter basket (**22**) comprising horizontal and vertical frame members and pervious side and bottom walls secured to the frame members, an upper rim including an outwardly directed upper rim flange adopted to set down onto the grate supporting shoulder of the catch basin when the first filter basket is inside the catch basin, an inwardly directed lower rim flange spaced below the upper flange, and a vertical wall extending between the upper and lower rim flanges;

a second filter basket (**72**) that sits down into the at least a larger filter basket (**22**) and has side and bottom walls spaced inwardly and upwardly from the side and bottom walls of the at least a larger filter basket (**22**), said second filter basket (**72**) having a flange at its upper end that sits down on the lower rim flange of the at least a larger filter basket (**22**) when the second filter basket (**72**) is in the at least a larger filter basket (**22**); and whereby when the second basket (**72**) is inside the at least a larger filter basket (**22**) spaces exist horizontally between the sidewalls of the first and second baskets and vertically between the bottoms of the first and second baskets.

18. The nesting filter system of claim **17**, further comprising an absorbent filter pillow positioned inside the first filter basket between the bottom of the first filter basket and the bottom of the second filter basket.

19. The nesting filter system of claim **18**, wherein the absorbent filter pillow includes a pervious casing and an oil absorbing filter material inside the casing.

20. The nesting filter system of claim **17**, wherein each filter basket has four quadrate sides and each side and the bottom is a quadrate.

21. The nesting filter system of claim **17**, wherein each filter basket has a cylindrical sidewall and a circular bottom wall, and the top flange is a circular ring.

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After the Patent 7,771,591 was administered to Dr. Chassidy F. Lucas Ph.D. on August 10, 2010. Tim Reed and Roni Sasaki were first verbally warned to discontinue the infringement of the "591" liner. Then after receiving a fax by Enpac, on October 30, 2010 Enpac attorney Mr. Randolph E. Digges, III was sent the following notification and design agreement see exhibit "L"